August 6, 1937

Mr. J. D. Coffman, Chief Forester,
Branch of Forestry,
National Park Service,
Washington, D. C.

Dear Mr. Coffman:

I have your letter of July 28 enclosing Dr. De Leon's report on the Bryce Canyon National Park control project. I was very much interested in seeing this. A great deal of work was accomplished.

I am sending a copy to Dr. Beal at Fort Collins, as you suggest.

Sincerely yours,

P. C. Craighead
In Charge
Forest Insect Investigations

fcc-es
cc/J.A.Beal

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Branch of Recreational Planning and State Cooperation
330 Hilgard Hall, U. C.
Berkeley, California

July 12, 1937

REPORT ON THE 1936-37 INSECT CONTROL PROJECT BRYCE CANYON NATIONAL PARK, UTAH

A previous report by the writer[1] gave the history of and discussed the plans for control of the outbreak of the Black Hills and Douglas Fir beetles.

Control work was begun on March 17 and completed on June 28. The methods of control varied with the conditions under which the treating was done and the tree species. During the early part of the season the infested trees of both species were bucked up into lengths that could be handled by four men, and the infested sections decked and burned. This method was the most efficient but in some cases the surrounding vegetation was too dense to permit decking; in that case the logs were barked and burned in place. Toward the end of the job the fire hazard was so great that the infested limbs of ponderosa pine could not be burned. This necessitated barking them which cut down the number of trees that could be treated by a crew in a day to nearly one half of the usual number. Right at the end of the job the weather was sufficiently hot to enable the crews to treat the limbs by exposure to the sun. Uninfested limbs were lopped and scattered.

Although not all the infested Douglas fir that were marked for treating were treated, the areas of heaviest infestation were cleaned up. Control of the outbreak of the Douglas fir beetle was dropped before completion on June 1 in order to permit the complete cleanup of the more serious outbreak of the Black Hills beetle in ponderosa pine.

The present report summarizes the spotting and treating work carried out last fall and this spring. All of the work on this project was done with CCC labor. Only the actual treating costs are given as neither the records on the camp overhead or cost of new equipment, the cost of transfer of equipment from Yosemite and Sequoia National Parks and Boulder Dam Recreational Area, and of men from Farmington Bay State Park, nor the costs for keeping the road clear of snow are available.

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[1] Report on the Black Hills and Douglas Fir beetle outbreaks in 1936 at Bryce Canyon National Park and Plans for Control in 1937. Berkeley, Calif., Jan. 29, 1937.

Summary of Spotting Job

Acres spotted		7,500
Total number of trees spotted:		
Ponderosa pine	878	
Douglas fir	1736	2,615
Effective enrollee man-days spotting (Sept. 21-Nov. 3, Mar. 29-Apr.1)		188(2)

Total effective man-days (enrollees) by months:

March	70	(includes 7 truck driver man-days)
April	525	(" 34 " " " ")
May	1244	(" 62 " " " ")
June	1544	(" 88 " " " ")
	3383	186

Man-days contributed time (Flewelling and DeLeon) 69

Cost of spotting

Enrollees @ $2 per day	$376.00	
Contributed time	440.31	$816.31
Cost per acre		.11
Cost per tree		.31

Summary of Treating Job

Acres treated		7,500
Total number of trees treated:		
Ponderosa pine	847	
Douglas fir	1617	2,464
Board feet treated:		
Ponderosa pine	343,750	
Douglas fir	249,020	592,770

Man-days treating:

Effective man-days, enrollees		3,383
Supervision		9-3/4 months
Andersen	2½ months	
Willis	1½ "	
Johnson	3/4 "	
Ball	1½	
Whipple	1/15	
Ewell	1/8	
Flewelling	½	
DeLeon	3-1/10	

(2) Does not include 36 man-days spotting for the Forest Service in adjoining Powell National Forest.

Man-days (enrollees) for period March 17 to May 17, inc., on 1,153 Douglas fir and 71 ponderosa pine ..... 1,245(1)
Trees treated per man-day for above period ..... .93

Man-days (enrollees) for period June 8-28, inc., on 615 ponderosa pine and 5 Douglas fir ..... 1,116(1)
Trees treated per man-day for above period ..... .55

Trees treated per man-day (both species together for entire job), 3,383 enrollee man-days (does not include 291 man-days supervision) ..... .75

Size of average tree:
Ponderosa pine DBH 20" - logs 4
Douglas fir DBH 18" - logs 3

Cost of treating
Effective man-days (enrollees), 3,383 @ $2 per day ...$6,766
Saw-filer and tool man 190
Supervision:
Foreman 736
Contributed time (DeLeon and Flewelling) 962
$8,653

Non-effective man-days (enrollees), 1,472 @ $2 day .. $2,944
$11,597

Cost per treated tree (effective enrollee days plus supervision) ..... $ 3.43
Cost per treated tree (all costs) 4.70
Cost per MBM (effective enrollee days plus supervision) 14.59

A survey is planned for September to check on the amount of reinfestation and the need for maintenance work in the spring of 1938. For the survey, two crews of 6 men each will be needed. If it is found that there is sufficient infestation to warrant additional control work the infested area will be spotted up by making a 100 per cent cruise as was done last fall.

Respectfully submitted

Donald DeLeon
Associate Entomologist

(1) These figures are only approximate and do not tell the whole story as some ponderosa pines were treated while treating the Douglas fir and the Douglas fir were treated when there was little or no fire hazard. The figure for the Douglas fir covers a period when Douglas fir was the principal species treated and consequently it includes a few ponderosa pine, and vice versa.

Insect Control Project
Bryce Canyon National Park
1937

1. Insect spotting crew, April 1937. Five feet of snow on the level.

2. Control work. Treating Douglas fir.

Insect Control Project
Bryce Canyon National Park
1937

3. Deck burning, Douglas fir.

4. Burning Douglas fir in place.

Insect Control Project
Bryce Canyon National Park
1937

5. Douglas fir treated in place. Note the stripped-out green log in foreground.

6. Douglas fir treated in place. Note the fire line and barked stump.

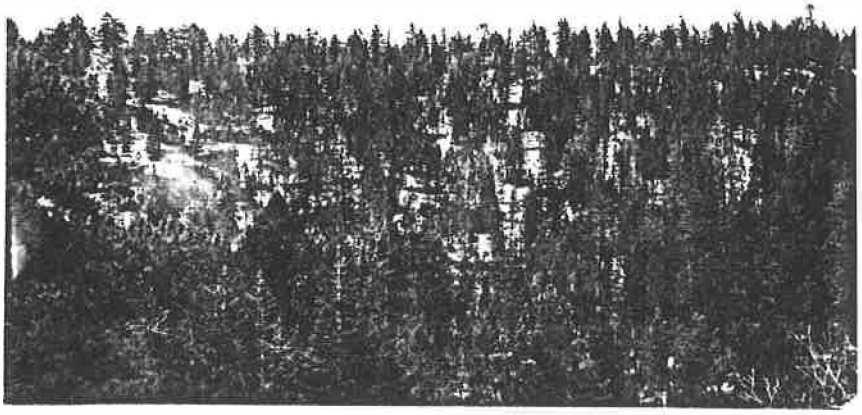
Insect Control Project.
Bryce Canyon National Park
1937

7. Treated Douglas fir. Note barked green stumps and method of numbering stumps.

8. Method of treating infested stump.

Insect Control Project
Bryce Canyon National Park
1937

9. Treating Douglas fir. Note chickadee on ~~limb on bark.~~ During the first part of the job chickadees followed the ~~control~~ crews around to feed on the beetles liberated by the barking operation.



10. Smoke from control fires.